

1 1. A communications device comprising:
2 a transmitter that converts electrical representations of aural signals into
3 signals for transmission over a medium;
4 a receiver that receives communication signals for conversion into
5 representations of aural signals;
6 a touch-screen display comprising icons representing numbers that are used to
7 enter at least a number in response to a contact area, on the display, over a particular
8 icon to be entered; and
9 a controller, coupled to the transmitter, the receiver, and the touch-screen
10 display, the controller controlling the communications device and comprising an
11 apparatus that generates the icons representing numbers for display on the touch-
12 screen display, the controller additionally comprising an apparatus that generates an
13 accumulated telephone number in response to the particular icons contacted on the
14 touch-screen display.

1 2. The communications device of claim 1 wherein the controller is a
2 microprocessor.

1 3. The communications device of claim 1 wherein the medium for
2 transmission is a wireless channel.

1 4. The communications device of claim 1 and further including a
2 microphone for generating, from speech, electrical representations of aural signals for
3 transmission.

1 5. The communications device of claim 1 and further including a speaker
2 for generating aural signals from received electrical representations of aural signals.

1 6. The communications device of claim 1 wherein the communications
2 device comprises a telephone and a personal digital assistant.

1 7. The communications device of claim 6 wherein a telephone mode of
2 operation is selected by contact of an icon, generated by the controller, representing
3 the telephone mode.

1 8. The communications device of claim 6 wherein a personal digital
2 assistant mode of operation is selected by contact of an icon, generated by the
3 controller, representing the personal digital assistant mode.

1 9. The communications device of claim 1 and further comprising:
2 a headset comprising:
3 a speaker for generating aural signals from received electrical representations
4 of aural signals;
5 a microphone for generating, from speech, electrical representations of aural
6 signals for transmission; and
7 a low power transceiver that couples the headset to the communications
8 device.

1 10. A wireless radiotelephone that communicates wireless signals with a
2 base station, the wireless radiotelephone having a personal digital assistant mode and
3 a communications mode, the wireless radiotelephone comprising:
4 a transmitter that converts electrical representations of aural signals into
5 communication signals for transmission over a wireless channel to the base station;
6 a receiver that receives wireless signals from the base station for conversion
7 into received electrical representations of aural signals;
8 a touch-screen display comprising icons representing numbers that are used to
9 enter a number in response to a contact, on the display, over a particular icon to be
10 entered; and
11 a controller, coupled to the transmitter, the receiver, and the touch-screen
12 display, the controller controlling operation of the communications device and
13 comprising an apparatus that generates the icons representing numbers for display on
14 the touch-screen display, the controller additionally comprising an apparatus that
15 generates and displays an accumulated telephone number in response to the particular

16 icons contacted on the touch-screen display.

1 11. The wireless radiotelephone of claim 10 wherein the wireless channel
2 is a code division multiple access air interface channel.

1 12. The wireless radiotelephone of claim 10 and further comprising:
2 a headset comprising:
3 a speaker for generating aural signals from the received electrical
4 representations of aural signals;
5 a microphone for generating, from speech, the electrical representations of
6 aural signals for transmission; and
7 a low power wireless transceiver that couples the headset to the wireless
8 radiotelephone.

1 13. The wireless radiotelephone of claim 10 wherein the personal digital
2 assistant mode is selected by contact of an icon, generated by the controller,
3 representing the personal digital assistant mode.

1 14. The wireless radiotelephone of claim 10 wherein the telephone mode is
2 selected by contact of an icon, generated by the controller, representing the telephone
3 mode.

1 15. A method for communication by a buttonless communications device
2 having a telephone mode, the method comprising the steps of:
3 generating a plurality of number icons;
4 displaying the plurality of number icons on a touchscreen display; and
5 generating a telephone number in response to which particular icons are
6 selected by contact with the touchscreen display.

1 16. The method of clam 15 and further comprising the steps of:
2 generating an icon representing the telephone mode;
3 displaying the telephone mode icon on the touchscreen display; and

initiating the telephone mode in response to contact with the touchscreen display that corresponds with the telephone mode icon.

17. The method of claim 15 and further comprising the steps of:
generating an icon representing a personal digital assistant mode;
displaying the personal digital assistant mode icon on the touchscreen display;
and
initiating the personal digital assistant mode in response to contact with the touchscreen display that corresponds with the personal digital assistant mode icon.

18. The method of claim 15 and further including the step of transmitting the telephone number to a central switch for dialing.

19. The method of claim 15 and further including the steps of:
the buttonless communications device receiving an incoming call; and
indicating the incoming call by an alert indication.

20. The method of claim 19 wherein the alert indication is an aural tone.

21. The method of claim 19 and further including the step of automatically switching to the telephone mode upon receipt of the incoming call.

22. The method of claim 15 and further including the steps of:
switching to a telephone book mode;
finding a desired telephone number for calling; and
initiating a telephone call by contact with the desired telephone number.

23. A communications device that transmits and receives communication signals, the communications device comprising:
a tactile response, touch-screen display comprising dynamically activated tactile elements; and
a controller, coupled to the tactile response, touch-screen display, the

6 controller controlling operation of the communications device including dynamically
7 activating the tactile elements, the controller comprising means to generate icons
8 representing data for display on the touch-screen display.

1 24. The communications device of claim 23 and further comprising:
2 a transmitter that converts electrical representations of aural signals into
3 communication signals for transmission over a medium; and
4 a receiver that receives communication signals for conversion into received
5 electrical representations of aural signals.

1 25. The communications device of claim 23 wherein the tactile response,
2 touchscreen display is comprised of a matrix of substantially closely spaced tactile
3 elements.

1 26. The communications device of claim 25 wherein the tactile elements
2 are activated by electrically addressing a desired tactile element.

1 27. The communications device of claim 25 wherein the tactile elements
2 are activated by addressing a desired tactile element utilizing a fluid controlled by the
3 controller.

1 28. The communications device of claim 23 wherein the controller has
2 means for forming a numeric keypad by activating a plurality of the tactile elements
3 situated over number icons generated on the touchscreen display.

1 29. A method for communication by a buttonless communications device
2 comprising a tactile element, touchscreen display, the method comprising the steps of:
3 generating a plurality of data icons on the touchscreen display;
4 activating a sufficient quantity of tactile elements over each of the plurality of
5 data icons to provide a tactile response to touching a data icon; and
6 generating a telephone number in response to which particular data icons are
7 selected by contact with the touchscreen display.

1 30. The method of claim 29 and further including the step of displaying the
2 telephone number generated by the selection of particular data icons.

1 31. The method of claim 29 and further including the step transmitting the
2 telephone number to a central switch in order to call the telephone number.